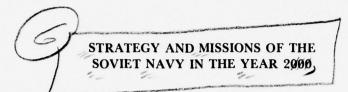
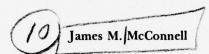
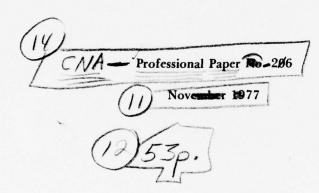


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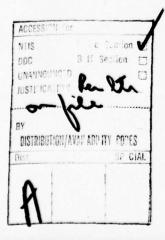
PROFESSIONAL PAPER 206

STRATEGY AND MISSIONS OF THE SOVIET NAVY IN THE YEAR 2000

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Paper to be presented at a Conference on Problems of Sea Power as we Approach the 21st Century, sponsored by the American Enterprise Institute for Public Policy Research, 6 October 1977, and subsequently published in a collection of papers by the Institute.



This paper represents the opinion of the author and not necessarily that of the Center for Naval Analyses, the Department of the Navy or any other government agency.

STRATEGY AND MISSIONS OF THE SOVIET NAVY IN THE YEAR 2000

Noone can speak with confidence of a situation almost 25 years in the future; a great deal can happen over a quarter of a century. The empirical tradition demands, however, that to the extent we do address the future, projections ought to be based on trends, or the lack of consistent trends, observed in the past and the present, which form a continuum with the future.

Accordingly, I will first deal briefly with some features of Russian naval development that have persisted over time, as well as some that have shown changes and fluctuations, especially those revealing regularities even in the process of change. Then I will deal at greater length with trendour own period, since the 1950's, drawing on evidence from allocations, capabilities, operations, and especially stated intentions. In the final section I will project strategy and missions for the year 2000, bearing in mind past and current trends, pointing out areas where history is a very uncertain guide, and paying attention to requirements and limitations imposed from the political side, as well as purely naval requirements and the state of the art and technological potential for satisfying these requirements.

CONTINUITY AND PERIODIC CHANGE IN RUSSIAN NAVAL HISTORY

A survey of the Russian Navy since the time of Peter the Great reveals a large degree of continuity, apparently due more to

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the formidable limitations set by geography than to anything else. At the dawn of the eighteenth century Russia was blocked from the Baltic by Sweden and from the Black Sea by Turkey; she possessed no merchant or fishing fleet, nor the sailors to man them. Unlike the usual pattern of national naval development, the Imperial Russian Navy was founded by Peter, not to protect maritime commerce and its outlets, but rather to obtain them. 1 And even though the "urge to the sea" bore fruit, Russia's ports and naval bases have remained badly placed in relation to the main ocean routes of the world. This has handicapped her naval as well as her maritimecommercial development, with the consequence that, for much of her history, ambition has never risen above the objective of commanding the adjacent seas. Naval action has usually been carried on in coastal waters in direct support of the land campaign. Only rarely has the Navy ventured out upon the world ocean, and then usually with the neutrality or benevolent support of the leading naval powers. Russia may for long have been a great sea as well as land power, as Soviet naval spokesman tell us repeatedly, but surely the heavier accent has been on the latter, even though the gap today is narrowed.

Within this general <u>continuity</u> of limitations on naval ambition, there have been observable <u>discontinuities</u> of Russian interest in exploiting the potentialities actually open for naval development. Historically, Russian emphasis on the navy has

shown a spasmodic off-again, on-again pattern. Several decades of intense activity in naval development have typically been followed by several decades of perfunctory activity, involving relatively slow growth or stagnation, sometimes even an absolute decline in capabilities, only to be succeeded anew by a period of renewed enthusiasm and so on. It was this secular alternation of interest and apathy which wrung from the Russian naval historian Klado the complaint that, over more than two centuries of the Russian Navy (he was writing in 1905), "we have not shown ourselves capable of firmly deciding, not only what kind of fleet we need, but absolutely whether we need one at all." The point was well taken, if exaggerated, and has been remarked by Westerners as well. According to Erickson, "the changing whims of Russia's leaders" since Peter's time have "made the development of the Navy a peculiarly 'stop and go' process marked by alternating periods of frenzy and inertia." And as Woodward notes, "the waxing and waning of the Russian navy," so conspicuous in the first half of the eighteenth century, "has repeated itself in Russian history down to the present day."5

From a quantitative standpoint, contrary to the usual impression, the present post-Stalinist period has not been among those of the greatest rates of expansion -- the eras of Peter I, Catherine II, Nicholas I, Alexander III, or Stalin. Under Stalin, programs were initiated that led to an average annual increase of 8-9 percent in tonnage over the years 1926 to 1957. To be sure,

the development proceeded from a low base (only 139,000 tons in 1926) but this source of percentage inflation was counterbalanced by the interruption of the expansion program throughout almost the whole of the 1940's, due to the war and the requirements of postwar recovery. Nor did the impetus behind naval development seem to be losing steam at the end of the period. The average annual increase in tonnage between 1950 and 1957 was above the average for the whole period 1926-57.

Since that time the rate of expansion has appreciably slowed down. The crucial 1954 decision redefining the path of maritime development is said to have reduced the annual tonnage output of all types of warships by some 60 percent in favor of commercial construction. 8 In numbers of personnel and major combatants today's fleet is actually down by roughly a quarter from that of two decades ago, although there was an increase in tonnage of some 40 percent between 1957 and 1975, since the submarines of today are substantially larger. However, the average annual increase in tonnage over this period works out at only something on the order of a fifth to a quarter of the rate of increase between 1926 and 1957. Had expansion been at the same rate after 1957 as before, the 1975 Navy would have been more than triple its actual size. Moreover, about three-fourths of the tonnage increment actually registered is attributable, not to the traditional missions of "fleet against fleet," but to a novel mission -- strategic nuclear strikes directly against the shore. Were it not for this mission we would be

speaking of an actual quantitative stagnation in Soviet naval development. The tonnage of major surface combatants (escorts and above) actually declined about 25 percent.

What is paradoxical about this period -- and what is apparently novel about it from an historical standpoint -- is that, in spite of the decline in personnel and combatant units and the much slower rate of growth in tonnage, the Soviet Navy has nevertheless managed to reduce appreciably the capabilities gap between itself and the leading naval power, the United States; and at the same time it has also managed to break out of the straitjacket of geography onto the world ocean. It has done this by exploiting a technological trend relatively more favorable to them than to us in the naval sphere -what the Soviets call "the revolution in military affairs," i.e., nuclear warheads and nuclear power, missiles, and electronics. These innovations have tended to be great equalizers in some of the most important indices of naval power. Even though the U.S. Navy remains superior, having advanced qualitatively by the same means, this is insufficient consolation when we consider that for the first time the Soviet Navy can pose a direct threat to the continental United States; for the first time it can present a serious threat to the American surface fleet; and for the first time, through its Navy, Russia has become a global as well as a superpower, hence a formidable competitor in peacetime naval diplomacy. And while the costs of quality have come high -- the investment value per ton of the 1975 combatant fleet seems to be more than three times greater than in

19579 -- the USSR has succeeded in substantially reducing the capabilities gap with a smaller national effort. In contrast to the trend in the Stalinist era, the real burden of the Navy on the Soviet economy is almost certainly less today then in the mid-1950's, considering the faster pace of economic as against naval expansion.

CURRENT TRENDS IN NAVAL DEVELOPMENT AND MISSIONS

It has been reported that the USSR not only has the standard five-year plans for naval development, which are tied in with the five-year plans for the national economy 10, but also ten- and even twenty-year plans. 11 The objectives of these longer-range plans are not announced at the time, if ever. It was not until 1967 that we were informed by Admiral Gorshkov of the goals of the 1954 decision that apparently replaced the Stalinist postwar long-range plan with a radically new one. The objective, he said, was to create an "ocean-going" fleet, capable of accomplishing tasks both in nuclear (world) war, and in conventional (local) wars, and also of protecting "state interests" at sea in peacetime. 12 I see no good reason to doubt that these were, in fact, the goals as formulated in 1954; 13 such a formulation at that time is consistent with, though not proved once and for all, by other data and considerations. 14 The plan was no doubt elaborated in greater detail than indicated by Gorshkov, but its indices were probably not too specific or fixed; too much would depend on research and development payoffs, unforeseen initiatives and reactions of target countries, and other contingencies.

Regardless of original intentions, the result of two decades of development is a Soviet Navy with the following salient features:

- Essentially a sea-going fleet in 1957, today all naval force-arms -- subsurface, surface, and landbased and shipboard aviation -- are overwhelmingly "ocean-going", i.e., designed to operate on or over the high seas in war.
- In 1957 the main arm of the Navy was the surface ship, submarines making up only 25-30 percent of the investment value of the combatant fleet. Today the submarine is the main arm, accounting for two-thirds of 1975 investment value.
- The main allocation of resources within the Navy is to ballistic-missile submarines. Eighty percent of 1975 combatant tonnage, representing over ninety percent of combatant investment value, consists of ship classes introduced since 1957. The strategic-strike function alone accounts for over forty percent of the investment value of these newer combatants. 15
- Less has been invested in other functions. The open-ocean anti-ship and anti-submarine functions each account for something over fifteen percent of investment value; coastal defense accounts for a little over ten percent. None of the other functions, considered singly -- interdiction of sea lines of communication, mine warfare, amphibious warfare -- contribute as much as five percent.
- This distribution of investment, considered together with operations and stated intentions, suggests why the Navy has radically improved its standing within the armed forces in some directions, while continuing to lag in others. When it comes to its role in "the combat system of the armed forces," which relates only to the "armed struggle" in war, the Navy still ranks last. But when it comes to "the system of

national defense," which deals with the overall political and military struggle in war and peace, the Navy comes second, after the Strategic Missile Troops. This disparity in ranking seems to be due to the fact that the first two out of three of the Navy's top missions are essentially politico-military, rather than purely military, in character. 16

- The "main" assignment is strategic "operations against the shore" in "the national defense", which includes a sea-control mission for the protection of those submarine-launched ballistic missiles that are apparently to be withheld from the initial strikes even in general nuclear war.
- The Navy's second mission, described as "especially important", is "the protection of state interests" abroad in peacetime, backed up by a local war doctrine should the political use of force fail in its aim.
- Only the Navy's third mission is essentially military in character. This mission, currently designated as "secondary", is that of strategic defense of the homeland against sea-based strike systems.
- Thus the present Soviet Navy seems to be the complex product of a particular technological trend and of political decisions flowing from a certain softening of the ideological confrontation in the post-Stalinist era, centering on the concepts of peaceful coexistence and the recognition of an intermediate Third World between the two blocs. These have apparently had the effect of strengthening the political aspects of naval activity even in war, enhancing the importance of peacetime uses of the fleet, and to some extent shifting the axis of Soviet naval activity from the main Euro-American area of concern to the Third World periphery.

Having given an overall survey, let us now treat individual missions in terms of trends and problems -- first general war tasks, then those of peacetime and local war, after which we will go over to projection of strategy and missions for the year 2000.

General War Missions

Strategic strike. Moscow early evinced an appreciation for submarine strategic delivery systems; the Soviet Navy had a "quickfix" ballistic missile platform at sea as early as 1956, years before the appearance of Polaris. 17 However, for the first decade after the 1954 decision, the emphasis was not on strategic strike. This mission accounted for only 15-20 percent of the investment value of combatants put into operation over the period 1960-65. By contrast, over the next decade strategic strike accounted for almost half of combatant investment. At the beginning of 1966, on the eve of the deployment of the Yankee class, strategic operations against the interior were, for the first time, declared first-priority, and this has remained the "main mission" ever since. 18

It is important to know whether Soviet ballistic-missile submarines are part of the "first strategic echelon" intended for the initial strikes, or whether they are designated "the second strategic echelon" for military or political use in later stages of the war and in influencing the peace talks. The Soviets have always provided for operational and strategic reserves at all levels and, given the inherent advantages of the submarine in avoiding

detection and targeting, it would have been only natural to think of it early in the reserve role. Based on Soviet statements, I have tentatively come to the conclusion that, in the early 1960s, when ICBMs were first introduced, a "division of labor" was planned for land- and sea-based strategic launchers. Both the Strategic Missile Troops and the Navy's missile submarines would hit coastal targets. However, only the former, supplemented by Long Range Aviation, would take part in the initial strikes against the interior. A portion of the sea-launched missiles capable of this would be withheld as a strategic reserve. 20

This decision was very shortly reversed; after 1962 the "doctrine of withholding forces" was scorned, perhaps on the grounds of the poor survivability of early submarine platforms, coupled with the urgent demand for initial-strike (first-echelon) forces. It was not until 1971, when strategic parity had been largely attained and submarine security was satisfied by the introduction or imminent introduction of Yankee- and Delta-class missile submarines, that the earlier division of labor was restored. The Strategic Missile Troops now have the most important "first word" in war, the Navy apparently the important "last word." Too, Soviet discussions turn so often on the blackmail potential of third-party fleets, that one cannot help but wonder whether China is not a major factor in the Soviet doctrine of withholding forces. 22

Sea Control. A withholding strategy creates special problems for the USSR that do not obtain for the U.S. First, there is the old Russian enemy -- geography. American submarines attain the security of the high seas almost immediately upon leaving port. To reach their launching stations, however, Soviet Yankee-class submarines have to pass through choke-points under Western control (Greenland-Iceland-UK gap). Second, there is the technological lag. Neither the Yankee nor the Delta class (which, with its longer-range missiles, can launch from the relative safety of contiguous waters) are as quiet as their American counterparts; this makes them vulnerable to Western antisubmarine warfare, which is relatively more advanced anyway. It is not surprising, therefore, that from the very beginning of the nuclear era in the early 1960's, the Soviets have coupled a withholding strategy with the requirement to protect the submarines withheld with surface ships, aircraft and nuclear-powered torpedo-attack submarines, not only in their departure from base but also in their "deployment to the areas of combat operations," especially "in the areas of intense activity of enemy anti-submarine forces."23

After 1962, however, when the decision evidently went against the creation of second-echelon strategic reserves, criticism was voiced of "attempts to protect forces for the future, while rejecting their correct use in the present." It was only with the apparent return to withholding in 1971 that uniform praise was once again lavished on sea control. According to Admiral Gorshkov, both world wars "have demonstrated the erroneousness of the opinion

that the submarine, by virtue of the secrecy of its movements after leaving base, can itself ensure its own vulnerability."²⁵ Sea control on behalf of missile submarines is not a secondary but a "main goal" along with strategic strike itself, ²⁶ and is to be carried out, using surface ships, aviation and general-purpose submarines, ²⁷ as "the first and main task" from "the very beginning of the war."²⁸

Of course, not all strategic forces are slated for the second-echelon reserve. Those on station before the war begins will presumably take part in the initial strikes, and if the war begins non-nuclear, they will evidently require protection. This may be the explanation for the recent report that torpedo-attack submarines are co-deployed with patrolling missile submarines in the Atlantic. 29

Strategic Defense. In the late 1950s, even though strategic-defensive weapons systems were beginning to enter the inventory, the main naval focus was still on the offshore mission, mainly in support of tha land campaign. ³⁰ After 1960, however, even though the Russian Navy had -- and still has -- the world's largest fleet of minor combatants for coastal protection, supplemented by an enlarged amphibious-marine force for theater use, this task was reduced to the "secondary" level, ³¹ where it has since remained.

For six years -- and six years only, covering the period

1960 through 1965 -- the Navy's main mission was said to be that

of "combatting the enemy fleet," 32 which included, and still includes,

as its most important component "combatting the strike forces of the enemy fleet" and "repelling their strikes from ocean axes," 33 i.e., strategic defense. (Failure to grasp this terminology is even today an unfortunate source of confusion.) In the first half of the period anti-carrier warfare received the primary accent in this general task. 34 By 1964, however, countering the carrier was considered to be only an "important" mission, 35 even though carrier air still belonged, in the Soviet view, to the "first strategic echelon" of nuclear strike forces. In 1966, in line with U.S. statements, the Soviets relegated the carrier to the "second strategic echelon"36 and, beginning in the first half of the 1970's, its main mission in general war was said to be that of winning "command of the sea" (the Russian term for sea control), ahead of the reserve strategic-strike task. 37 Because of this, plus the absence of references to anti-carrier warfare as part of the mission of combatting the enemy fleet, I am tempted to suggest that it may now be considered part of the Soviet sea-control mission, which is itself apparently no longer listed under the rubric of combatting the enemy fleet. 38

During the period 1963 through 1965, combatting Polaris was the "main" or "first-priority task" of the Navy, ³⁹ but it has not been since, contrary to a widespread but undocumented impression. In 1966 and 1967, though specifically denied to be a "main task", countering Polaris was still considered to be "most important." ⁴⁰ In 1968,

however, it seems to have been downgraded to the "important" category and Gorshkov has recently referred to it as a "secondary" task. 42

We can probably attribute this downgrading to a failure of technology rather than acceptance of U.S. concepts of mutual assured destruction. Certainly Moscow is more realistic today in appraising its strategic-defensive capabilities. From the fall of 1970 on, with the apparent revival of withholding on a large scale, coupled with the downgrading of strategic defense, both Soviet and U.S. missile submarines were asserted to be "virtually invulnerable." The strategic-defense objective today, according to Gorshkov, is that of "degrading to the maximum extent possible" enemy strikes on ground targets. In line with current usage of the term "degradation," this implies the Soviets feel they can knock out no more than 15 percent of Western sea-launched missiles.

The overall distribution of general-purpose resources clearly ought to be in favor of sea control, since this is a "main" mission, as against combatting Polaris, which is a "secondary" task. However, the allocation within individual force arms is not all that clear. One gains the impression from Soviet discussions that sea control has the clear edge in surface-ship missions, that both sea control and strategic defense are prominent in naval air but in uncertain proportions, and that combatting Polaris seems to take priority only in the case of "nuclear-powered" torpedo-attack submarines. 46

Interdiction of Sea Lines of Communication. In the early 1960's this was included in the overall mission of "combatting the enemy

fleet," and was considered to be no less important than countering the carrier. 47 However, it is not generally appreciated that, even at this early date, the main method of interdiction was through ballisticmissile strikes -- against communications terminals on shore (bases, ports), canals, straits, and ship building and repair yards -rather than attacks on merchant shipping at sea, which received only a secondary accent. 48 It was felt that interdiction at sea could not be an urgent task in the initial period of the war, since generalpurpose forces had to concentrate on nuclear-weapons carriers; only after the strategic struggle was resolved would attack submarines be redeployed on a large scale for disrupting communications in the "broken-back" phase of the war. From the mid-60's on interdiction was designated as only an "important" or "secondary" mission, rather than a "main" or "most important" one. It was said that "ocean communications in the initial period...will not play any vital role, especially as the major ports and naval bases of the belligerents will most probably have been destroyed (put out of commission) by nuclearmissile strikes."49

Gorshkov's recent book seems to shrink even further the significance of interdiction at sea. No longer is the anti-communications assignment included in the task of "combatting the enemy fleet."

It is considered part of the overall mission of "operations against the shore"; and he attributes the change specifically to the Navy's "ability to fulfill strategic tasks of an offensive nature." ⁵⁰ In

other words, it is apparently not the result of an arbitrary redefinition, but may testify instead to the even greater predominance of strategic strike in interdiction. I have previously speculated that Soviet recognition of a withholding strategy for both the U.S. and the USSR may be responsible for this. Communications can now be disrupted even in the later phase of a war by a portion of the missiles withheld, while the general-purpose forces formerly counted upon for interdiction at sea in these later phases will no longer be available, because of the continuing requirement for sea control in support of Soviet missile submarines and for countering Western sea-based systems, also withheld.

This interpretation is derived from the Soviet nuclear-war scenario. It is unfortunately the only scenario discussed by naval spokesmen, even though the general military literature in recent years seems to give more credence to a non-nuclear phase of inter-bloc war (though not, it would appear, to an inter-bloc war confined to the sea or a combined land-sea central war fought through to the end with conventional means.) Speculation on Russian silence is risky, but I am tempted to attribute it to the possibility that mission priorities would not change substantially even in the context of an initial conventional phase. The Soviets may or may not intend to respect the inviolability of sea-based missiles in the conventional period; they could feel that the main task in the conventional period is to improve, through conventional means, the Soviet military position should the war escalate. They also may or may not expect that we will avoid their

strategic withholding areas, but they know they cannot count on it and, if there is escalation, all restraints are surely removed. Submarines that are expended or deployed out of area on shipping lanes will not be available should the U.S. prosecute strategic defense in the conventional phase or if there is a movement up the ladder to nuclear war. It seems likely that there would be a heavier allocation to interdiction, but the basic forces would probably have to be assigned to, or held in reserve for, more important missions —sea control and strategic defense.

Peacetime Political and Local War Missions

One of the novelties of the post-Stalinist period is the resumption -- after its lapse under Stalin -- of Third World naval diplomacy, both cooperative and coercive. Lack of space prohibits a fully satisfactory treatment of this large, complex and subtle problem, but an abbreviated effort will be made to examine it under three headings: motivation; capabilities; and risk-taking propensities.

Motivation. The central precondition was Moscow's abandonment of the two-camp theory of the Stalinist era and the adoption of a more positive approach to Third World nationalism, the interests of which were thought to parallel those of the USSR. By 1955, with the single exception of coercive naval diplomacy, all the current instruments of Soviet Third World policy had already appeared -- trade, cultural exchanges, political, economic and arms aid, even "cooperative" naval diplomacy (official port visits). Moreover, the viability of

some of these instruments would seem to depend on a forward naval presence. Trade and aid also meant the development of a merchant marine, which (along with the expanded fishing fleet) might require protection, especially in the case of sensitive arms shipments. Even more important, it might have appeared useless to generate an expensive stake in Third World regimes, only to see them toppled from within or without for the want of a forward-area military presence. A diplomacy of force based on this presence could protect and promote Soviet interests and create additional credit with grateful clients.

Capabilities. Although, as Admiral Gorshkov testifies, a Third World diplomacy of force was already thought desirable in the mid-50's, it would take a full decade of development before sufficient capabilities could be accumulated to make this a part of operational doctrine. From the perspective of 1954, the U.S. attack carrier was regarded as the primary naval threat to the homeland in general war and as the main strike force in local conflicts. By concentrating on anti-carrier warfare (ACW), therefore, the Soviets were solving two problems in one developmental package. Initially the most urgent need was for ACW for strategic defense, but after 1965, when the carrier became a "strategic reserve" in the Soviet view, ACW in the local context may have been ranked as high as in the general-war context. Today the carrier's role in local war is mentioned ahead of its main sea-control mission in nuclear war. 51

The vast bulk of Soviet ACW capabilities were created in the 1960's, especially in the first half, although their quality was vastly

improved after 1965. The open-ocean anti-ship function accounted for about 30 percent of the tonnage and investment value of combatants introduced over the period 1960-65, around 20 percent for the period 1965-70, but only in the neighborhood of 10 percent during 1970-75.

It is often argued that the Soviet Navy is narrowly tailored to general nuclear war, that general-purpose forces on forward-deployment are preoccupied with strategic defense of the homeland, and there is no "surplus" available for a Third-World diplomacy of force, especially in distant areas. It is true that the Soviet Navy, like any other, was created for war⁵² but, according to Groshkov's testimony, it was not created for nuclear world wars alone but also for local wars; and it is on the basis of these dual war-fighting capabilities that the Navy has become an effective peacetime political instrument -- deterrence and offensive pressure directly against the West on the one hand, the "protection of state interests" on the other.

Second, the current strategic-defensive bias of Soviet forward deployments has been overemphasized. If strategic ASW against Polaris-Poseidon is crucial to peacetime forward deployment, we ought to find late-generation anti-submarine cruisers and large anti-submarine ships in the forward area -- permanently, or at least during crises, when the danger of escalation is greater. We do find some early-generation platforms formally designated as anti-submarine ships in the forward area -- Kresta I, Kashin, Kanin, and modified Kildin -- but these are apparently there as elements of anti-carrier

task groups, not for strategic ASW. What is missing in the permanent deployment are the later-generation platforms -- Kiev, Moskva, Kara, Kresta II, Krivak. These ships do periodically deploy and exercise in the forward area; however, the fact that there has been no beef-up during crises -- indeed, a Kara in the Mediterranean went home at the first sign of trouble on the eve of the October War -- suggests that the urgency of strategic ASW in the forward area immediately on the outbreak of war may have been exaggerated. We must remember that, in the Soviet view, U.S. sea-based missiles basically constitute a strategic reserve, and that Russian strategic ASW forces, along with ballistic-missile submarines, are scheduled for sea-control support. Taken together, all these observations imply that the anti-Poseidon task is not central to peacetime forward deployments and that the mission can afford to wait until a more favorable environment is created in nuclear war for their operations.

The core of the <u>permanent</u> forward deployment is the ACW force. This contingent is augmented in crises; however, the Soviet concern is surely local rather than strategic. The carrier in general war is appraised as an immediate threat to the Soviet fleet (sea control) rather than to the homeland; and to the extent that it is regarded as a reserve strategic threat to the USSR, there is no reason why there should be a reaction to it but no reaction to the greater second-echelon threat posed by Polaris-Poseidon. However, even aside from these considerations, there is no contradiction between the general and local war missions of ACW task forces. As

long as they are in the vicinity of their target, they are in a position to discharge either task. Nor does remoteness from the USSR seem to matter much in Soviet ACW capabilities. They do not send large surface and submarine forces at short distances, fewer forces further away. Instead they respond to real or anticipated U.S. carrier initiatives in a uniform way, matching an ACW task group of a more or less standard surface and submarine composition with each carrier task group, regardless of the deployment distance —whether to the Indian Ocean, ⁵⁴ the Atlantic off Angola, ⁵⁵ or the Eastern Mediterranean. ⁵⁶

Aside from the periodic deployment of sea control and strategic ASW forces, then, the core of the permanent and crisis-generated general-purpose forward deployment is made up of ACW forces (Mediterranean and elsewhere) useful for sea control in general war and countering the U.S. Navy in local conflicts, plus more conventional forces for local situations (Indian Ocean, Eastern Atlantic) where U.S. carriers are not permanently present. ⁵⁷ So far Moscow has not developed shipboard air and amphibious capabilities for long-range power projection; the Kiev-class flight-deck cruiser seems to be intended for sea control in general war rather than action against the land in the Third World. ⁵⁸ However, this has not handicapped the USSR in Third World intervention as much as one might think. At the same time that a navy was being created for forward deployment, the Soviets were brilding up globally mobile military air transport

and airborne forces. By the mid-60s they probably had the capability for the simultaneous lift over long distances of one airborne division, today of two. ⁵⁹ And where rapid reaction is not a requirement, they can draw on strategic reserves from other branches of the armed forces, as in the War of Attrition in 1970. In this all-arms solution, the role of the Navy is presumably to inhibit U.S. naval initiatives and reactions against the land and to secure the lifeline back to the USSR.

Risk-taking Propensities. Success in military diplomacy hangs in the final analysis on a willingness to use force, and the Soviets have indicated they had a local war doctrine from the beginning of 1966. 60 The Soviets define a local war as one limited in area, number of belligerents, means and ends. 61 The definition does not bar the participation of one or both superpowers. While the risks of escalation to world nuclear war are high if "the nuclear powers" (plural) become involved, this is evidently judged less likely if "vital interests" are not at stake, 62 as is generally the case in the Third World. The Soviets, of course, are not anxious for military solutions; a willingness to use force is only the grounding for its political use. The problem is to tailor the threat of force to Soviet local capabilities in situations where Moscow's strength of will is greater. From a "no-risk" policy before the mid-1960s, when capabilities had not matured, the USSR has gone over to what might be termed a policy of "acceptable risk."

An examination of some 25 cases of Soviet coercive diplomacy since 1967 suggests that, in the underdeveloped areas of Asia and

Africa, where both superpowers can field credible forces and the interests at stake are evaluated as roughly equal, the key variable in relative superpower strength of will and politico-military impact turns on the question of which superpower, or the client of which superpower, is upholding the status quo strategically. 63 The Soviets know from experience that the U.S. is firm in upholding the status quo when its interests are at stake, but it can also conclude that Washington is reluctant to defend breaches of the status quo by its friends even when maintaining the status quo involves injury to U.S. interests. Accordingly, Moscow can accept the risks of using force or the threat of force to secure transport even of arms and soldiers to friendly countries in peacetime; and it can demonstrate or actually intervene on behalf of recognized governments against domestic opposition and against foreign foes threatening the territorial integrity and viability of client states. It can also demonstrate on behalf of a client caught out in a breach of the international status quo, not in support of the breach itself but to confine the U.S. reaction to the breach to defensive ends. On the other hand, with certain exceptions, it would be an unacceptable risk for the USSR to violate the rights of others to the common sea, to threaten or employ force to help overthrow an established government from within, or to support a client in a strategic offensive against another state. The exception is when the U.S. itself is not committed to the status quo, because colonialism and racism are, or seem to be, involved, and the U.S. is unable to implement its own non-violent alternative to the

status quo, as in Guinea in 1970 and Angola in 1976. This Russian approach to force seems to be defensive --- and it is, from the formal standpoint of the international order -- but we have to remember that fanaticism and irresponsibility are also a part of the status quo⁶⁴ and the mere fact of a superpower defensive commitment has often seemed enough to assure a client of the safety of offensive action, knowing that, if it fails, he will not lose everything.⁶⁵

While the USSR has become increasingly more committed to naval diplomacy, and the mission has improved its status within the Navy, there does not seem to have been any increase or decrease in risk-taking propensities over time. The varied action taken seems to be a function of the situation and the guidelines laid down in the original 1965 decision on local war.

THE SOVIET NAVY IN THE YEAR 2000

There are two broad areas that we have to consider in extrapolating to the year 2000. The first is the encouragement given to, and the constraints imposed upon, naval development by the Soviet system as a whole, especially as manifested in the ideological-political process. This bears largely, but not entirely, on the quantitative side of the problem — the willingness to allocate resources to the Navy rather than to other competing claimants, as determined by the predominance of ideological or of pragmatic considerations and by the resulting level of aggressiveness of the system.

The second area is the requirement for missions imposed by the immanent logic of the military-naval system and the ability of the scientific-technical establishment to satisfy this requirement at a cost acceptable to the system as a whole. Although this aspect has a definite quantitative impact, in the light of the projection problem as a whole its affect will be treated as primarily qualitative, bearing on missions, state of the art, and scientific-technological creativity.

The Ideological-Political Effect

I will take two projection approaches, one involving a continuation of the current long-term trend, the other its reversal. There is a methodological assumption common to both approaches — that the individual components of the Soviet system are interdependent and mutually compatible, and that anything posited about the future of the system has to be derived from its history. This does not mean that history repeats itself, only that there are long-term across-the-board trends and patterned regularities in historical change. The assumption is philosophically repugnant, since it limits the freedom of a human system and its individual components, but experience does seem to give it a certain utility for forecasting.

Continuation of the Current Trend. As we have seen, the current trend in naval development originated in a decision of 1954. If this trend continues, the Soviet Navy of the year 2000 will have perhaps ten percent fewer major combatants than in 1975 but that

component will be 50 percent larger in tonnage; this increase in tonnage over 25 years should be compared with the 45-50 percent increase registered for the 18 years between 1957 and 1975. The year-2000 fleet will also be appreciably more combat-effective and represent a greater investment per ton. However, barring another "revolution in military affairs," in neither aspect will the disparity between the 1975 and year-2000 fleets be as great as between the 1957 and 1975 fleets. This is suggested by trends in percentage increases in the investment value of the average major combatant ton introduced during successive five-year periods compared with previous five-year periods since 1950. These are: for 1955-60, 25 to 30 percent; 1960-65, 85 to 90 percent; 1965-70, 80 to 85 percent; but for 1970-75, only 5 to 10 percent.

The relatively modest increase projected in the size of the Soviet Navy reflects a continuation of the lower level of aggressiveness manifested in the post-Stalinist period; it obviously makes a difference whether the Soviets declare war to be "inevitable" or not. However, while continued adherence to "peaceful coexistence" will constrain the absolute level of naval expenditures in favor of alternative civilian uses, it will also tend to maintain, perhaps to enhance, the relative standing of the Navy within the armed forces. Peaceful coexistence downgrades the armed struggle, not the economic, ideological, and political struggles; and the political includes the military-political. In a diplomacy of force the Navy has unique advantages, both in peace and war. In peace: deterrence and the appli-

cation of pressure in the direct confrontation with the West; the protection of an expanding commerce on the high seas; and cooperative and coercive diplomacy in the meditated confrontation with the West in the Third World. In war: a strategic political as well as military reserve.

This implies continued political pressure for a sufficiently large sea-based deterrent, made secure by sea-control development. Whether this also implies the continued success of strategic arms limitation agreements depends in part on technological developments and disparities, but it is tempting to assume that, if the will to agreement exists, a formula can be found to get around technical difficulties. Assuming a continuation of the current trend, the political atmosphere should be favorable, except for periodic short-term storms that put detente in jeopardy. Of course, the existence of large numbers of Chinese ballistic missiles by 2000 will complicate the problem of arms limitations.

However, the pressure from the Soviet political process for warfighting missions, such as strategic defense against Trident, will
presumably be even less than it is today. There is, of course, a
political demand for this mission. Earlier we reasoned that today's
secondary emphasis on strategic defense was primarily due to the
lack of a scientific-technological perspective, but Soviet accommodation
to the failure of technology may have been helped by the growing
distinction between deterrence and war-fighting, which until recently

they have been reluctant to make -- and still do not make to the same degree, and with the same frankness, as Western spokesmen. 66

Reversal of Trend. If we are resigned to having the past determine our image of the future, then we should consider this projection option more likely; a periodic reversal of trends is more faithful to Russian experience. Typically several decades of relatively modest naval development have been succeeded by a roughly equal period of stormy expansion, but no trend in either direction has endured for the five decades posited in the previous projection. Others have noted this "pendulum effect"; what has not been noted is its across-the-board character, the correlation of naval development with other indices. At least since the end of the 18th century, relatively modest naval allocations have been associated with "reform eras" in Russian history, intense development with periods of ideological-political and economic alienation.

We have to appreciate the wide swings displayed in this historic alternation of trends. Whereas there was only a 40 percent increase in combatant tonnage during the 18 years after 1957, there was a ten-to eleven-fold increase over the 31 years preceding 1957. In 1928, the real burden of defense on the Soviet economy was around 2.5 percent; by the early 1950's, if the burden was underestimated to the same extent as later, it must have been close to 30 percent, compared to today's 11 to 13 percent. To be sure, one would not expect a retrogression to Stalinism, but it would not require the revival of slogans on the "inevitability" of war, only on the

heightened danger of war, to provide a doubling, perhaps even a tripling of fleet tonnage by the year 2000. In the short term, shipbuilding facilities reallocated from military to commercial construction in the 1950's could be returned to military production; in the longer term new facilities could be added. Such a shift in emphasis is all the more to be expected, since historically the periods of rapid naval expansion have also been periods of economic isolation and declining, or declining rates of increase of international trade; ⁶⁹ and today international trade primarily governs merchant marine development.

A reversal of the current trend would have profound effects. Although the Navy would improve its position in absolute terms, it would suffer relative to some other branches of the armed forces as a result of the displacement of interest from peace to war and from the political use of force to the military. Of course, military force would have a political impact -- that political impact would even be enhanced -- but it would be based on "war-winning" capabilities rather than the punitive retaliation implied in the less ambitious concept of deterrence. Moscow would still want a strategic sea-based reserve, complete with protection forces, but the accent might be on its straight military potential rather than its value as an intra-war deterrent and bargaining instrument. Strategic arms limitations would be difficult to maintain in the long-run, and there will presumably be substantially greater allocations to strategic defense, regardless of whether there is or is not a real technological breakthrough.

I am inclined to think, however, that the Third World naval diplomacy mission might suffer. Moscow has been able to cut a figure in underdeveloped regions in the post-Stalinist period because of its willingness to compromise with nationalism and strike quid-pro quo bargains with non-Communist governments. If ideology creeps back into Russian calculations, there might be a revival of interest in Communist movements rather than government-to-government relations. Soviet military involvement would become less important, unless more ideologically compatible groups come to power.

The Military-Naval and Technological Effect

Strategic Strike and Sea-Control Support. Military as well as political requirements dictate that the USSR will maintain the maximum permissible force of sea-based ballistic-missile platforms out to 2000. Presumably substantial effort will be made to quieten them and all missiles will be of sufficient range for launching from home waters. Sea-control support will have to be given to all these platforms in the non-nuclear phase of a war, but only to those withheld from the initial strikes during the nuclear phase. This was indicated some time ago by a Soviet theoretician, speaking elliptically and using Western fleets as a surrogate for his own. He pointed out that, if ballistic-missile submarines are held back from strategic strike, they will have to be "in the reserve," since they have a narrowly specialized mission and cannot be used for non-strategic tasks. To survive in the reserve, they will have to be protected; this requirement has

accelerated the development of general-purpose forces, especially submarines. By emphasizing that ballistic-missile submarines will "always" be in the reserve if the war starts out non-nuclear, he evidently meant to imply in the context that in some cases, but not always, they will also be in the reserve after escalation, which is why "they are not capable of fully realizing their potential even in a nuclear war without the appropriate support of other forces..."70

One can only speculate as to how the support mission would be carried out. Missile submarines will probably be directed in a period of threat to local sanctuaries, such as the Barents Sea (Northern Fleet) and the Sea of Okhotsk (Pacific Ocean Fleet). The sanctuary concept has been hinted at by Soviet authors, as usual employing a Western surrogate. According to one writer,

arming submarines with long-range missiles enables them to operate ... at a significant distance from the shores of a probable enemy, reliably screened by surface ships and aviation. These submarines can launch their missiles both when transiting and when leaving their own bases, and even from points along the shores of the American continent... Arranging launch areas close to one's own shores appreciably simplifies the organization of control and communications, and cuts down on the expenditure of fuel and the time spent on ocean transits.71

Other authors, after indicating by the typical method of indirection that U.S. submarines are not now intended for the first strikes, go on to assert that, when the U.S. Navy acquires the long-range Trident missile, its launch vehicles will evidently be sited in home waters; around them will be concentrated "the principal ASW forces, which will

be assigned a new function -- guarding the strategic missile forces."⁷² In each of these cases the surrogate character of the U.S. example is glaring. Noone in the U.S. had advocated putting Trident in a local sanctuary and guarding it; it needs the security of neither, but Soviet submarines can use both.

The Barents and Okhotsk sanctuaries would presumably be heavily mined and pre-equipped with fixed underwater acoustic surveillance systems. Additionally, one would assume submarine barriers at all entrances to inhibit penetration by Western hunter-killer submarines. It would be to the U.S. advantage, thanks to the superior stealth of its submarines, to handle the encounter as a duel of platforms employing passive sonar. However, for the next decade or so -- and I emphasize the time limitation -- the Russians will probably continue to detect with active sonar, 73 attempting to transform the encounter into a duel of weapons systems (missile-thrown torpedos and depth charges). 74 To be sure, active sonar has a beaconing effect for enemy ASW air overhead; this may be the explanation for Soviet insistence that today "command of the sea has become unthinkable without command of the air" 75 and for the current emphasis on producing flight-deck cruisers of the Kiev class, which can provide air defense and interceptor cover for submarines, surface ships and aviation engaged in barrier operations.

By the end of the century, if the theoretical promise of submarine-towed passive acoustic arrays proves out in eliminating

the interference of self-generated noise, the encounter could again become a duel of platforms. This is dependent on the equal success of both sides in developing a submarine weapons system that can exploit the potentially greater detection ranges of towed arrays. If no such weapon solution if found, the requirement for air power to prosecute submarine contacts becomes even more crucial; but even with an underwater strike solution, the need for ship-based air would only be reduced, not eliminated. If one air-capable ship is put out every other year, which seems a conservative projection, the Russian Navy could have 13 by the year 2000, with several hundred fixed-wing V/(S)TOL aircraft in addition to the helicopter complement. Follow-on carriers would be larger than the current Kiev class, and their aircraft vastly more effective -- with greater interceptor ranges and higher speeds -- than the YaK-36 FORGER now aboard the Kiev.

Strategic Defense. Clearly there will be an urgent military requirement for combatting U.S. ballistic-missile submarines. However, from today's perspective, a practical year-2000 solution probably still seems remote to the Soviets. Efforts are bound to continue, especially on the theoretical-research side, but until there is a technological breakthrough, Moscow must strike some balance in hardware between avoiding possibly futile investments and having platforms available should the large-area sensor and weapons problems be resolved.

Clearly, by the year 2000, when Polaris and Poseidon have all been replaced by long-range Trident and follow-on missiles, the largearea sensor obstacle will have become immense, extending to millions of square miles of ocean. Even if the satellite nonacoustic detection problem is solved, which seems doubtful by 2000, detection and destruction -- presumably using land- or sea-based missiles -- would have to be executed in rapid order, since satellites are vulnerable to enemy action.

For area search with naval air, simply assuming an extrapolation of current procurement trends, the Soviets could very well expand the number of fixed-wing open-ocean aircraft by 50 percent, possibly replacing current land-based models (BEAR-F, MAY, MAIL) with long-range wing-in-ground (WIG) vehicles. State of the art by 2000 might permit their equipment with wake and electromagnetic detection devices for rapid high-altitude search; ⁷⁶ if not, they could perhaps be used to set out recoverable acoustic arrays. WIG search vehicles could prosecute their own contacts, using advanced sonobuoys and weapons systems, or this function could be turned over to submarines and perhaps ship-based air, if this is available in the forward area.

Clearly control of the air, or at least air denial, in the forward area would be crucial in this hypothetical approach. For this reason, it is difficult to find a viable place for strategic ASW air in the initial nonnuclear phase of a war. Aside from the risks of provoking escalation, there would be an overwhelming landand sea-based air threat on the open ocean and its approaches; under the circumstances, ASW air might be more safely and productively employed in sanctuary sea control. After escalation, and the

destruction of land-based air, the threat would be reduced but probably not eliminated, because of surviving carrier air. If perfected satellites are still available for reconnaissance and targeting on behalf of improved submarines with longer-range cruise missiles, the Soviets could decide to mount an extensive ACW effort in the forward area during the nonnuclear phase. Surely there will be such an effort in the Mediterranean, but in the Atlantic one would expect to find cruise-missile submarines mainly located in the Norwegian Sea for use in conjunction with land-based missile-armed aircraft. Atlantic carriers thus might survive if the U.S. is conservative in committing them against Soviet strong points in the conventional phase. To prosecute strategic ASW, then, the Soviets might have to break out some of their own carriers to fight the battle for command of the air above the ocean. Whether this course is taken will depend on a number of factors, including the availability of carriers after conventional-phase attrition, the higher priority allocation to sanctuary sea control, and Soviet ability to cope by the year 2000 with the emerging threat from large numbers of U.S. antiship cruise-missiles.

One can also expect substantial investment in hunter-killer submarines. Assuming no expansion in either cruise-missile or ballistic-missile submarines, only upgrading replacements maintaining SAL levels, the Soviets could triple the present number of nuclear-powered torpedo-attack submarines without greater exploitation or

expansion of existing capacity. These platforms would be shared primarily between the sea-control and strategic defense missions, with the allocation edge in favor of the latter. They would be quieter and possibly equipped with advanced sensors of longer range.

ASW missiles of a much longer range, and with a terminal undersea acquisition capability, would be needed to take advantage of increased detection distances, also more advanced torpedos perhaps along with antiship cruise missiles that can be launched from common tubes.

I would not expect substantial forward deployments of platforms during the conventional phase. Leaving aside escalation sensitivity, the counter-ASW environment would not be favorable and, given a perceived withholding strategy for the U.S., it should not be necessary to prosecute strategic ASW immediately on entering the nuclear phase. All these factors combined may explain Admiral Gorshkov's insistence that sea control is necessary for strategic defense as well as strategic offense. Command of the sea also includes command of the air and to a certain extent, the underwater environment, which requires "coordinated operations for the destruction of enemy basing points, and his airfields and command, control and communications centers."77 Until escalation occurs, then, the bulk of strategic ASW submarines would be held north of the Greenland-Iceland-UK gap and in contiguous closed seas in the Pacific. After escalation, with the vitiation of Western choke-point and other air capabilities, submarines could be broken out with the assistance of shipboard air and surface support.

Even safely out on the open ocean, however, it is difficult to see how hunter-killer submarines alone can do the job, if only because of the large area to be searched.

Peacetime Naval Diplomacy and Local War. If the Soviet armed forces are to have a political role in the Third World, particular military requirements have to be satisfied to make the mission credible. Ultimately -- and I stress "ultimately" -- the main opponent in the year 2000 will still be the U.S., and the main U.S. instrument will still be the carrier; hence Moscow, first of all, will have to concentrate on anticarrier warfare. The ACW function is also a principal component of the Soviet sea-control mission, but the allocation of forces is somewhat different in main sea-control areas such as the Norwegian Sea. There land-based aircraft can be drawn upon, as well as submarine and surface ships. This is not normally the case, however, for peacetime politico-military tasks in the forward area; the main accent has to be on the cruise-missile submarine, supported by surface ships and torpedo-attack submarines. To some extent this reduces credibility, which the Soviets have attempted to compensate for by adopting the crisis tactic of the "close embrace" of the carrier with Russian surface ships, to get around the carrier's long-reach advantage. 18

From the standpoint of the Soviet Navy's professionals, this might not be an entirely satisfactory solution: it is too situation-dependent; the carrier could decide to lose its tattletale and place

an advantageous distance between it and the Soviet fire-control and launch platforms. By the year 2000, too, a carrier task group will probably have much greater anti-submarine detection ranges. The Soviets may more than offset this development with the use of satellites for reconnaissance and targeting, in conjunction with submarine cruise-missiles with ranges on the order of several hundred miles. However, in my opinion, though more professional judgements should have the last word, this does not eliminate the requirement for forward air, at a minimum for sea- and air-control support of an ACW task group, if not as a principal stand-off strike platform against the carrier.

Moscwo might hope that, by the year 2000, a "satisficing" solution could be found in installing forward land-based air on the territories of friendly countries. But this puts the task at the mercy of political vagaries; surely the Soviet Navy would prefer globally mobile sea-based air, a requirement that could be met by the continued output of air-capable ships beyond the needs of sea-control on behalf of strategic-strike and strategic-defense missions. Still, despite the military requirement, I am not persuaded that the political authorities will take this course on behalf of the Third World ACW effort alone. Soviet ACW task groups can "give a good account of themselves" without air-capable ships; and if Moscow continues to select occasions for confrontation with prudence -- when its client rather than Washington's is in support of the formal status quo or when Washington is not firmly committed to the status

<u>quo</u> -- then experience suggests that Soviet strength of will from this source will more than compensate for deficiencies in capabilities.

However, the ACW effort is not the only requirement that Moscow has to consider in Third World coercive diplomacy. Confrontation in the Third World is first of all between client and client; second, between a patron and an opposing client; and only ultimately between patron and patron. The Soviet Navy, as presently constituted, can credibly meet the requirements for the first and third aspects. That is, it can police the sea and, to some extent, the air lines of communication that maintain the flow of arms and other supplies to clients, at least until war breaks out; and it is also credible in confining U.S. intervention from the sea, against the land, to defensive ends. However, the Soviet Navy has only a limited capability for intervening itself against an opposing client on land. So far, as we have pointed out, this has not proved a severe handicap. If time is not of the essence, as in the Arab-Israeli War of Attrition in 1970, Moscow can rely on the sea- and air-lift of strategic reserves belonging to other branches of the armed forces to the forward area, using the Soviet Navy to protect the lifeline back to the USSR. If rapid reaction is crucial, as in the June and October Wars, recourse can be had to Airborne Troops, again relying on the Navy to secure lines of communication, this time in the air over the sea. But geography works against the USSR as a global air power even more than it does as a sea power. To reach the forward area, overflight rights have to be granted, and these are at the pleasure of non-bloc countries

who have to be sympathetic with Soviet Third World goals. For an independent rapid-reaction intervention capability, Moscow would have to expand its naval infantry component for crisis situations, backed up by sea-based air oriented on the land.

Thus, it might not be so much the need to counter the U.S. in the Third World that drives the Soviets in the direction of forward sea-based air. Because its vital interests are not at stake, Washington is likely to respect the credibility of Soviet ACW task groups, as long as Moscow is on the side of the status quo. On the other hand, Moscow could not expect that the mere addition of sea-based air to ACW task groups would sufficiently tilt the balance in strength of will to force Washington's acceptance of breaches of the status quo by the USSR or its clients. Soviet use of force in this way would still be an unacceptable risk. By contrast, precisely because vital interests are often at stake for Western clients such as Israel, Moscow has to be more concerned for its intervention credibility; and the future could bring political developments along over-flight routes that would put air lines of communications in doubt. In addition, even airborne troops could use maritime air for support of its land operations. These considerations, together with the usefulness of shipboard air to carry out forward sea-control ACW in general war, might lead the Soviets to produce carriers for forward deployment, especially in the Mediterranean.

Obviously, I am not predicting that the Soviets will take this course. The additional costs and risks may not be justified by

the advantages. Power-projection capabilities are politically potent and militarily usable primarily when the target is a large-scale domestic opposition against an established client government or a Western client engaged in a successful offensive against a Soviet client. Almost all of these could be handled by small-scale naval action in coastal regions or large-scale recourse to other branches of the armed forces for action in the interior. Quick reaction in the interior so far has proved to be a requirement only for supporting Syria and Egypt against a victorious Israel; and the Soviets may continue to feel that the airborne solution will be adequate for similar situations in the future. In all other international crises, the Soviet client or ally was victorious or taking the offensive -e.g., in the Jordanian Crisis of 1970, the Indo-Pakistani War of 1970, the Mining of Haiphong in 1972 -- and the target therefore was the U.S. Navy, to limit the scope and reduce the political impact of its intervention or threatened intervention. Interior power projection was not a requirement; the crucial problem was credibility at sea. The Soviets may well be sanguine enough to think that this will be the typical scenario of the future; that history is on their side; and that the main task ahead will be inhibiting U.S. reversals of client successes, rather than protecting Soviet against Western clients.

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(N.Y., 1953), I, 564, II, 710, 789-790, 1230; Ministerstvo Vneshney Torgovli (MVT) SSSR, <u>Vneshnyaya torgovlya SSSR</u>, 1918-1966 (Moscow, 1967), 8-9, 62; MVT, <u>Vneshnyaya torgovlya SSSR za 1974 god</u> (Moscow, 1975), 10.

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